

**WATER & SEWER
COMMISSION**

December 21, 2018

Mr. Eric Worrall
Regional Director, Massachusetts DEP
205B Lowell Street
Wilmington MA 01887

RE: Third Modified Consent Decree Civil Action No. 76-cv-02184-RGS
LWSC Preliminary Design/ West Lynn Sewer Separation

Dear Mr. Worrall:

The Lynn Water and Sewer Commission (the "Commission") has reviewed the Massachusetts Department of Environmental Protection (MassDEP) letter dated October 23, 2018. Please find below our response following an excerpt of each the MassDEP review comment.

Coastal Flooding Concerns: Since flooding is such a major issue in the City, and in and near areas where the Commission will be carrying out sewer separation work, the Commission should make efforts, as noted in the PDR, to "coordinate the Commission's project improvements with other climate change initiatives at the local and regional level." The main focus of the work includes construction of a new storm drain system for over 200 acres in the City where recent and past flooding events have been very severe.

RESPONSE: The Commission is committed to coordinating with other City departments as part of the Consent Decree work to realize potential benefits of combining efforts, including any initiatives arising from the Lynn Economic Development & Industrial Corporation's 2016 Coastal Resiliency Assessment. Please note that the purview of the Consent Decree is CSO reduction, not flood control. We attribute recent severe flooding to astronomically high tides impacting low-lying coastal neighborhoods and an August 12, 2018 storm estimated to be a 500-1,000 year event that exceeds the capacity of modern storm drain systems.

Combined Sewer Area/Project Limits: The PDR in section 5 reassessed the area of combined sewers, and the catchment areas to be encompassed in this sewer separation project. The 2014 LTCP/NPC mapping of the combined sewershed was significantly more extensive than that included in the PDR. While the PDR notes that the more detailed design work will include further investigations of the River St/Camden St area as to the storm drain/sewer system, and confirmation that the BlosSD-North area can be conveyed to the 004 area, the Commission must ensure that the project (alone, or in combination with other planned, near term projects) will

eliminate each and every combined sewer system in the project area. The East Lynn sewer separation work (in the 006 area), in its original form, failed to include removal of all catch basins known to be connected to the sewer system, which in the end resulted in increased costs.

RESPONSE: The 2014 LTCP/NPC recommended capital improvements to cost effectively meet a desired level of CSO control, not “eliminating each and every combined sewer system in the project area”. The Commission is not committing to complete separation, nor removal of all catch basins known to be connected to the sewer system. The Project Area in the PDR has been identified to remove stormwater from the combined sewer system that is intended to result in a level of control consistent with the 2014 LTCP/NPC and 2004 SFP. Section 5.1 of the PDR discusses the sewer separation area changes and the net increase in sewer separation area currently planned for the West Lynn Sewer Separation Project (Bennett Street Storm Drain and Outfall Project and Blossom/Commercial Street Storm Drain Project that includes Bennett, Commercial, and Shepard drainage areas). The Final Design will confirm the exact land area to be separated under this project. Design of future projects will consider the final design of this project for compliance with the Third Modified Consent Decree. The required post-construction monitoring is further intended to demonstrate compliance with CSO level of control.

New Storm Drain Design:

Basis of Design: The Basis of Design chosen is the 5-year, 24-hour storm. This was cited in the initial December 7, 2016 Climate Change Assessment of the Bennett Street Storm drain project as the Mass Highway recommended design standard. However, that same Assessment focused on the 10-year, 24-hour storm as "more appropriate and consistent with CSO planning." In the end, that initial Assessment concluded that a gravity drainage design would not be feasible. The Commission's current consultant team has reassessed the Hydraulic Analysis of Concept Stormwater Discharge Facilities, in Appendix E of the PDR. However, it does not appear that they looked at any storms other than the 5-year storm. Now that a pump station and separate force main is a required element of the design, the Commission should evaluate the incremental costs of increasing capacity of the storm drain/pump station/force main, to determine if planning for a higher design storm is cost-effective, considering the history of serious flooding in the City, and to address current needs and impacts of future climate change. This has been identified as an ongoing concern at public meetings, including meetings of the Lynn Water & Sewer Commission, and MassDEP concurs this is a critical issue.

RESPONSE: To clarify, the basis of design in the Preliminary Design Report (PDR) is a “future” 5-year, 24-hour climate change design storm (5.04 inch total rainfall), which exceeds the “existing” Mass Highway recommendation of a 10-year, 24-hour storm (4.9 inch total rainfall). This represents an increase in proposed stormwater conveyance capacity from the 2014 LTCP/NPC as well as the 2017 Bennett Street Storm Water Separation and Drainage Design Considerations recommendations. The increased costs associated with the facilities proposed by the PDR as well as the other projects and requirements of the Consent Decree are

a concern for the Commission. A Financial Capability Assessment is currently being performed to determine the affordability to the ratepayers in Lynn of complying with the requirements of the Third Modified Consent Decree as well as the other requirements of maintaining and operating the collection system and wastewater treatment facility.

Infiltration/Inflow: Private inflow removal is also a component of the 2014 LTCP/NPC. The PDR notes (section 14) that private inflow investigations are an element of the detailed design work, and recommends concurrent evaluation of the drains/catch basins to convey private inflow sources (section 6). This work will also be critical to achieving the CSO control goals set forth in the LTCP/NPC. The Commission should indicate if there is a specific design target for inflow removal to achieve the level of CSO control set forth in the 2014 LTCP/NPC, and if conveyance of these flows is included in the final design (e.g. in the 006 area, the target was to remove at least 60% of private inflow sources).

RESPONSE: The target for private property inflow was established as 40% removal per Table 3-3 of the Commission's CSO Supplemental Facilities Plan (October 2004). The Commission is undertaking building inspections in early 2019, after which the feasibility and cost-effectiveness of private inflow removal will be evaluated against that target. The new storm drain system is sized to convey the target flow.

MassDEP notes that there is ongoing I/I assessment, including areas in West Lynn, which will have an impact on the effectiveness of the Commission's CSO abatement plan. The I/I Analysis of sewers in West Lynn, being done by Weston & Sampson, should be shared with the Commission's design team so that final design and effectiveness of the sewer separation work are optimized.

RESPONSE: When the I/I Analysis report from Weston & Sampson is available, the Commission will share the information with Stantec for review. The I/I removal plan will be integrated with the approach for sewer separation and other consent decree required projects.

Pump Station/Force Main

Screening: The PDR seems to indicate that screens will be manually cleaned. The Commission should indicate if mechanically-cleaned screens were considered, how screenings will be managed and the pros and cons of each operation. The Commission should also indicate who will be responsible for operation and maintenance of the pump station along with an estimate of labor needed to safely and effectively operate the facility.

RESPONSE: The screening chamber contains trash racks for coarse removal of large debris that can not pass through the pumps. The option of mechanical rakes were considered in Preliminary Design and discarded due to their cost, complexity and additional superstructure requirements. Provisions for manual cleaning by confined space entry were included in the 30% drawings as the alternative. The operations and

maintenance of pump station and related facilities will be part of the next contract operations contract for the wastewater treatment plant. The design plans will be included in the procurement process and separate costs will be requested for the pump station and associated facilities.

Force Main Alignment: The current design includes acute angles in a few areas. The Commission should consider eliminating these alignments.

RESPONSE: The force main alignment is currently being evaluated and prepared for detailed design. The PDR merely depicted the alignment along property lines. No acute angles will be designed, in accordance with standard engineering practice.

Outfalls: The PDR documents the questionable existing structural and hydraulic condition of outfall 002 and that it is almost entirely buried by beach sand accretion at the headwall. The Commission should fully evaluate the conditions of outfall 002 both for when and if additional stormwater flow is discharged directly through the existing pipe and for its use as a WWTP relief outfall. Options to facilitate a free flow open-ended pipe discharge should be considered and presented, including options to extend the outfall(s) on piles beyond the headwall.

RESPONSE: The PDR recommends no reliance on outfall 002 for stormwater discharge. A new stormwater outfall is currently being evaluated and designed. The condition of outfall 002 is categorized as an operations and maintenance issue that is separate from the design recommendations to meet the Consent Decree requirements.

Schedule/Permitting:

LWSC should provide a map showing the geographic locations of the proposed work, as the phasing of the sewer separation work outlined in Appendix K has not clearly been delineated on any figures.

RESPONSE: The attached map depicts the proposed phasing of sewer separation work.

There are some corrections needed to Table 15-1:

- *The Order of Conditions appeal period is 10 business days;*
- *The Chapter 91 License appeal period is 21 days; and*
- *There is also a Water Quality Certification appeal period of 21 days, which has not been listed in Table 15-1;*

A separate chart with actual milestone dates should be provided with the information in Table 15-1 so that it can be transposed or compared with the implementation schedule in Appendix K, as there seems to be inconsistencies. This will allow all parties to be aware early on of any pending schedule issues.

Only the Phase I work shown in Appendix K has any review time for MassDEP (or EPA), with others going right from 100% design into bidding. A minimum of 45 days should be included for regulatory review of plans/specifications for each phase of the project work. Additional time may be required to resolve any serious technical issues.

MEPA review: As you are likely aware, MassDEP cannot issue any permits until the Commission has satisfied the MEPA requirements (301 CMR 11.00).

RESPONSE: Please find attached updated versions of Table 15-1 and the Appendix K phased implementation schedule, along with the requested companion permitting schedule that aligns with those documents. The updated schedule has been adjusted to show a MassDEP (or EPA) review time. There is sufficient time in the design and construction schedule for these reviews and MEPA reviews without altering the construction completion milestones.

While the schedule set forth in Appendix K appears to accord with the construction completion dates in the Consent Decree, MassDEP has concerns about compliance with the schedule given the number of permits needed for the construction work, the engineering challenges for the work, and the prospects for delays. This is especially true for securing Article 97 authorization, which requires both local and state legislative actions. If the Article 97 authorization is either delayed or denied, the Commission's plan for siting the pump station at Neptune Boulevard Park will no longer be viable, creating the need for a major redesign. The Commission's Counsel, Barry Fogel, in his September 28, 2018 letter, indicates that, if the Article 97 approval for the Neptune Boulevard Park site is not secured by June 1, 2020, that the Commission will proceed with the redesign of the project with an alternative site for the pump station, and that project construction schedules will still be met. MassDEP has concerns that waiting until June 1, 2020, to initiate a redesign and to procure an alternative site will make meeting the projected construction schedule very challenging, and that without compressing the construction schedule, the Consent Decree Paragraph 9.f completion date may be jeopardized. The Commission should consider proceeding with additional preliminary design tasks for design of the project with an alternative pump station location well in advance of June 1, 2020. At a minimum, the Commission must provide a list of potential alternative locations much earlier, along with information on any acquisition issues for the potential sites. The potential sites should include a minimum of two additional viable sites north/west of the Lynnway, since those sites are more advantageous, as noted by the Commission's design team and would have similar design parameters as the Park site. The current alternative sites identified in the PDR would require a redesign of the conveyance system crossing the Lynnway and is considered more difficult in terms of design and construction. The additional potential sites north/west of the Lynnway need to include acquisition information relative to current ownership and uses, property values, costs and any hurdles to acquire and construct on the site, along with a proposed schedule to acquire the site if the currently favored site becomes infeasible. In any event, the Commission will remain subject to the Consent Decree requirements.

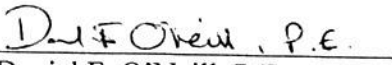
RESPONSE: Since release of the PDR to MassDEP, the Commission has met with MEPA officials, EOEEA officials, and again with the City's Mayor's office in pursuit of Article 97 approval. City department approvals and filing with state legislature is planned to be complete in Q2 2019. There is sufficient float in the Appendix K phased implementation schedule for a potential redesign should the Article 97 permitting process not be successful. To address MassDEP's concerns, potential redesign could start as early as January 2, 2020 should Article 97 approval not be received.

The Commission has already identified a viable alternative site should Article 97 approval not be obtained. This site is located at the DPW (straddling parcels owned by the Commission and City). Easement rights from the City are straightforward to acquire, and the Commission is prepared to undertake redesign of the conveyance system to include more difficult construction, should it be necessary. This site was noted by MassDEP to be advantageous for its substantial time savings in its letter to the Commission dated October 2, 2017.

Other parcels of sufficient size in the area that are north/west of the Lynnway are privately owned. Acquisition of private land will add to the cost of the project and presents its own schedule risk should a drawn-out negotiation with private parties arise. While the Commission may pursue acquisition of private land that is in the best interest of the Commission, introducing new requirements that dictates an additional number and locations of alternative sites has the potential to impact the Consent Order schedule and is not necessary given the DPW site alternative already developed.

The Commission looks forward to continued engagement with MassDEP. If you have any questions regarding our responses, please contact Anthony J. Marino, Chief Engineer (781) 596-2400 x 202.

Regards,


Daniel F. O'Neill, P.E.
Executive Director
Lynn Water & Sewer Commission

cc: Anthony Marino, P.E., LWSC Chief Engineer
Daniel Kucharski, P.E., Stantec

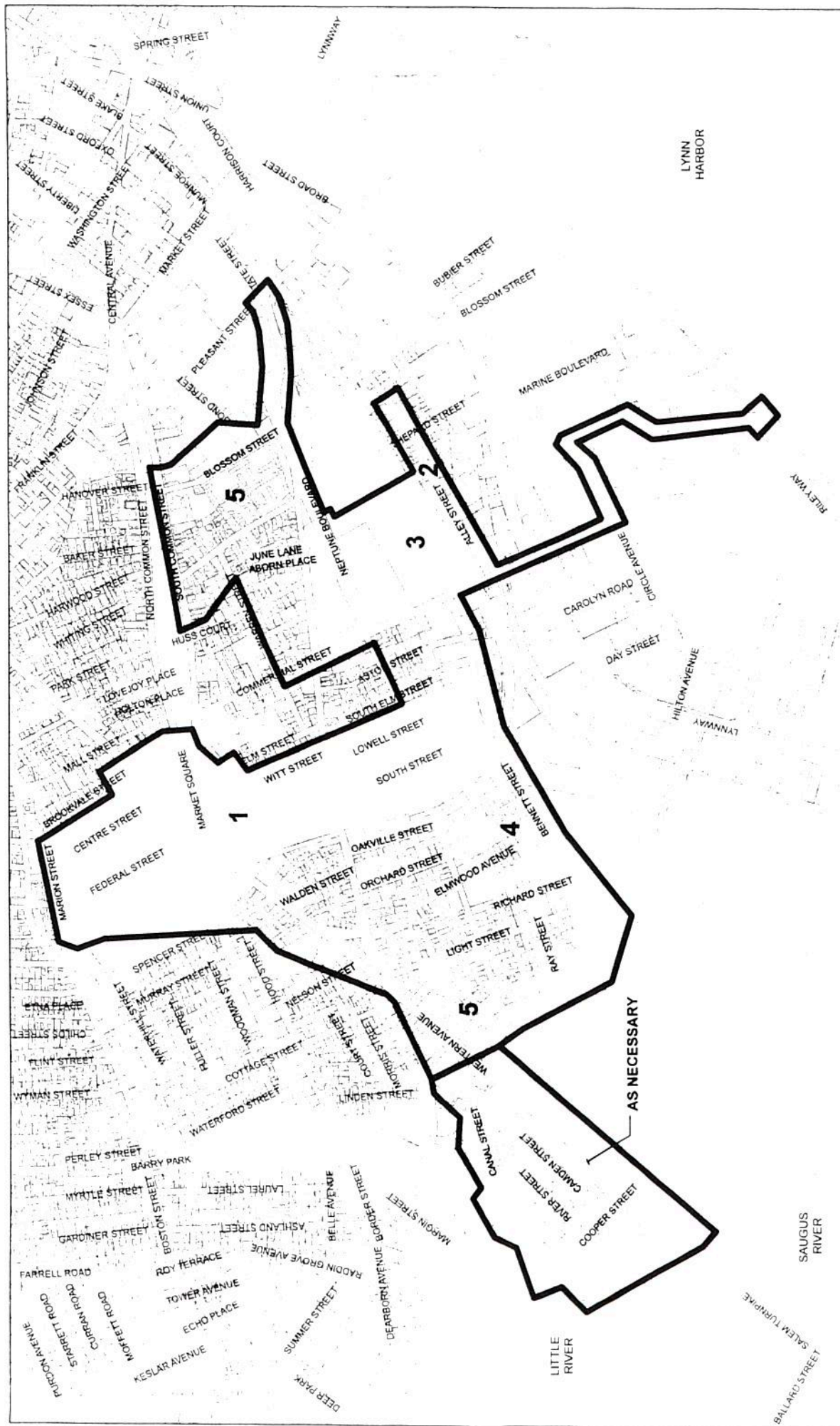
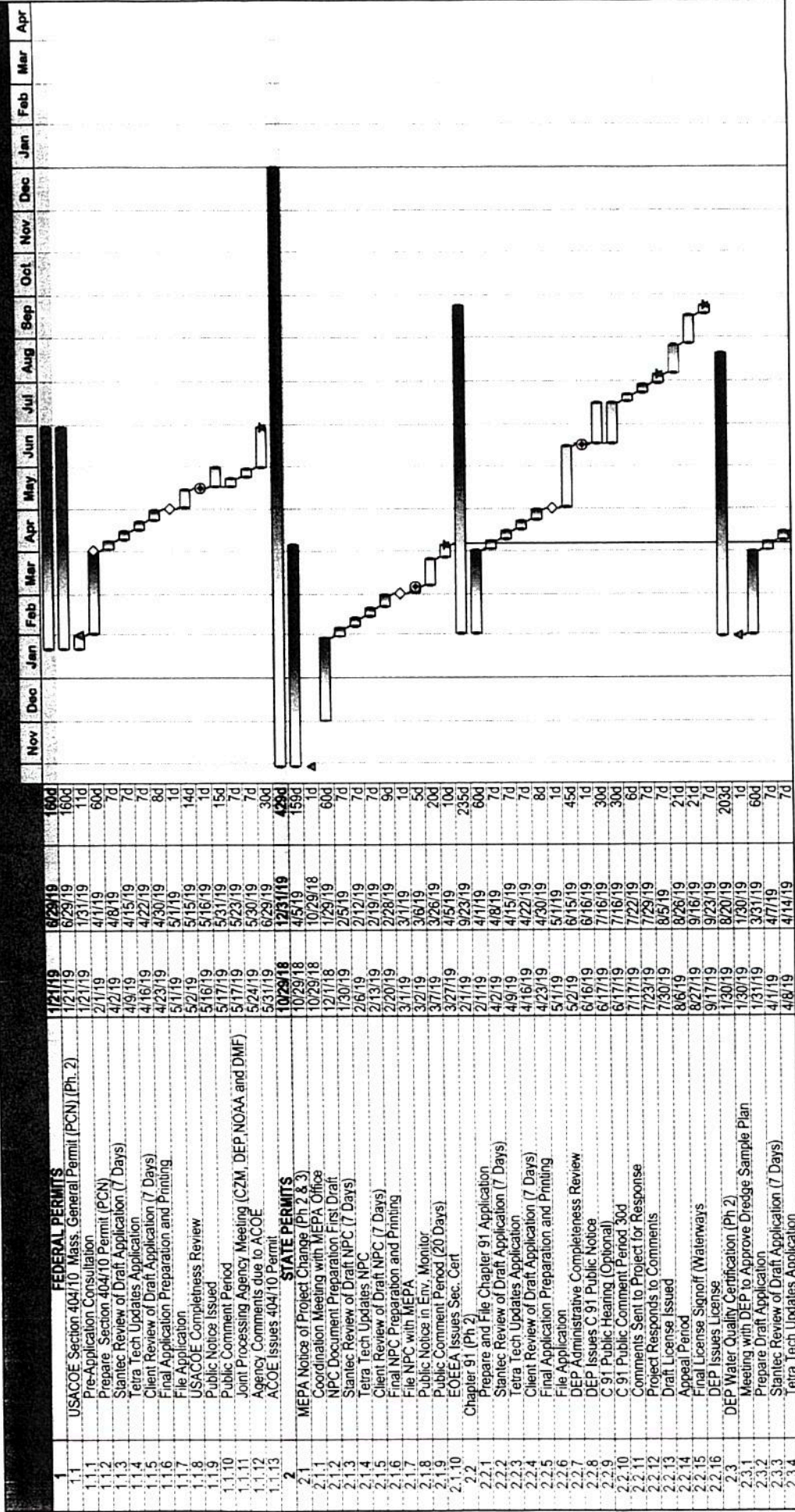


Table 15-1 Permitting Schedule Durations

Item No.	Task/Item Description	Lead	Predecessors	Duration
1	U.S. Environmental Protection Agency - National Pollutant Discharge Elimination System			
1.1	Construction General Permit	LWSC		
1.1.1	Prepare SWPPP/NOI	LWSC		7
1.1.2	Submit NOI	LW_WSC	1.1.1	1
1.1.3	Certify NOI	City of Lynn	1.1.2	1
1.1.4	USEPA Review/Authorization Issued	USEPA	1.1.3	14
1.2	Municipal Separate Storm Sewer Systems Program	City of Lynn		
2	U.S. Army Corps of Engineers (ACOE) - Section 10/404 Permits, Mass General Permit Preconstruction Notification (PCN)			
2.1	Prepare PCN	LWSC		60
2.2	Submit PCN	LWSC	2.1	1
2.3	ACOE Review/Verification Issuance	ACOE	2.2	60
3	Massachusetts Environmental Policy Act (MEPA)			
3.1	Prepare Notice of Project Change (NPC)	LWSC		60
3.2	Submit NPC	LWSC	3.1	1
3.3	Public Comment		3.2	20
3.4	Certificate Issued	EOEEA	3.3	10
4	Article 97			
4.1	Negotiate Mitigation	City of Lynn		125
4.2	Prepare Land Transfer Documents	City of Lynn	4.1	30
4.3	Submit Package to Legislative Sponsor	City of Lynn	4.2	1
4.4	Article 97 Land Transfer Approved	State Legislature	4.3	550
5	Massachusetts Wetlands Protection Act			
5.1	Prepare Notice of Intent	LWSC		60
5.2	Submit NOI	LWSC	5.1	1
5.3	Public Hearing	Lynn Conservation Commission	5.2	60
5.4	Issue Order of Conditions (OOC)	Lynn Conservation Commission	5.3	21
5.5	OOC Appeal Period		5.4	10 Business Days

Item No.	Task/Item Description	Lead	Predecessors	Duration
6	Chapter 91			
6.1	Prepare License Request	LWSC		60
6.2	Submit Request	LWSC	6.1	1
6.3	MassDEP Review/License Issuance	MassDEP	6.2	365
6.4	License Appeal Period		6.3	21
7	MWRA 8(m)			
7.1	Prepare Application	LWSC		14
7.2	Submit Application	LWSC	7.1	1
7.3	MWRA Review/Issuance	MWRA	7.2	45
8	MassDCR Construction/Access Permit			
8.1	Prepare Application	LWSC		60
8.2	Submit Application	LWSC	8.1	1
8.3	DCR Review/Issue Permit	MassDCR	8.2	60
9	MBTA			
9.1	Prepare Application	LWSC		60
9.2	Submit Application	LWSC	9.1	1
9.3	MBTA Review/Issuance	MBTA	9.2	120
10	MassDOT			
10.1	Prepare Application			60
10.2	Submit Application		10.1	1
10.3	MassDOT Review/Issue Permit		10.2	60
11	Water Quality Certification (WQC)			
11.1	Prepare Application	LWSC		60
11.2	Submit Application	LWSC	11.1	1
11.3	Certification Issued	MassDEP	11.2	324
11.4	WQC Appeal Period		11.3	21

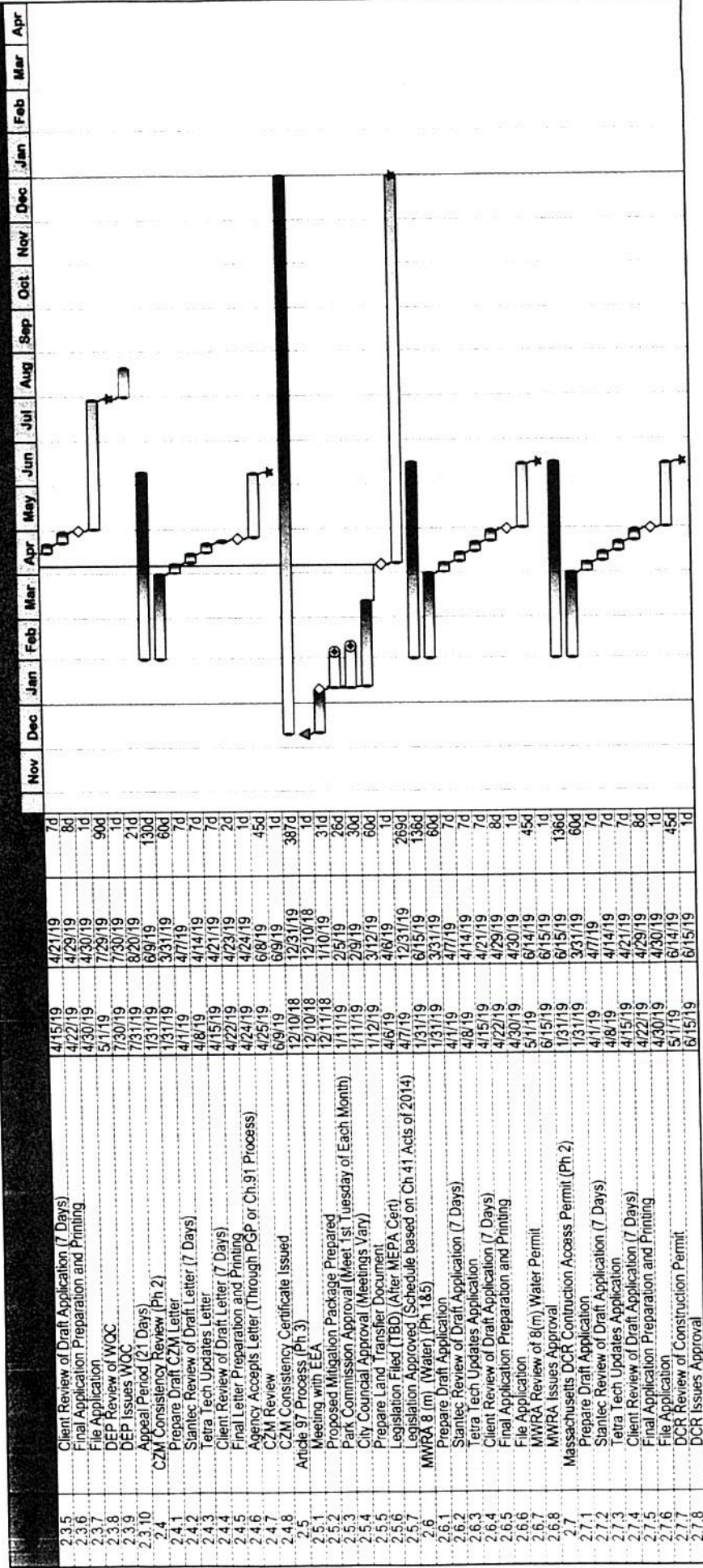
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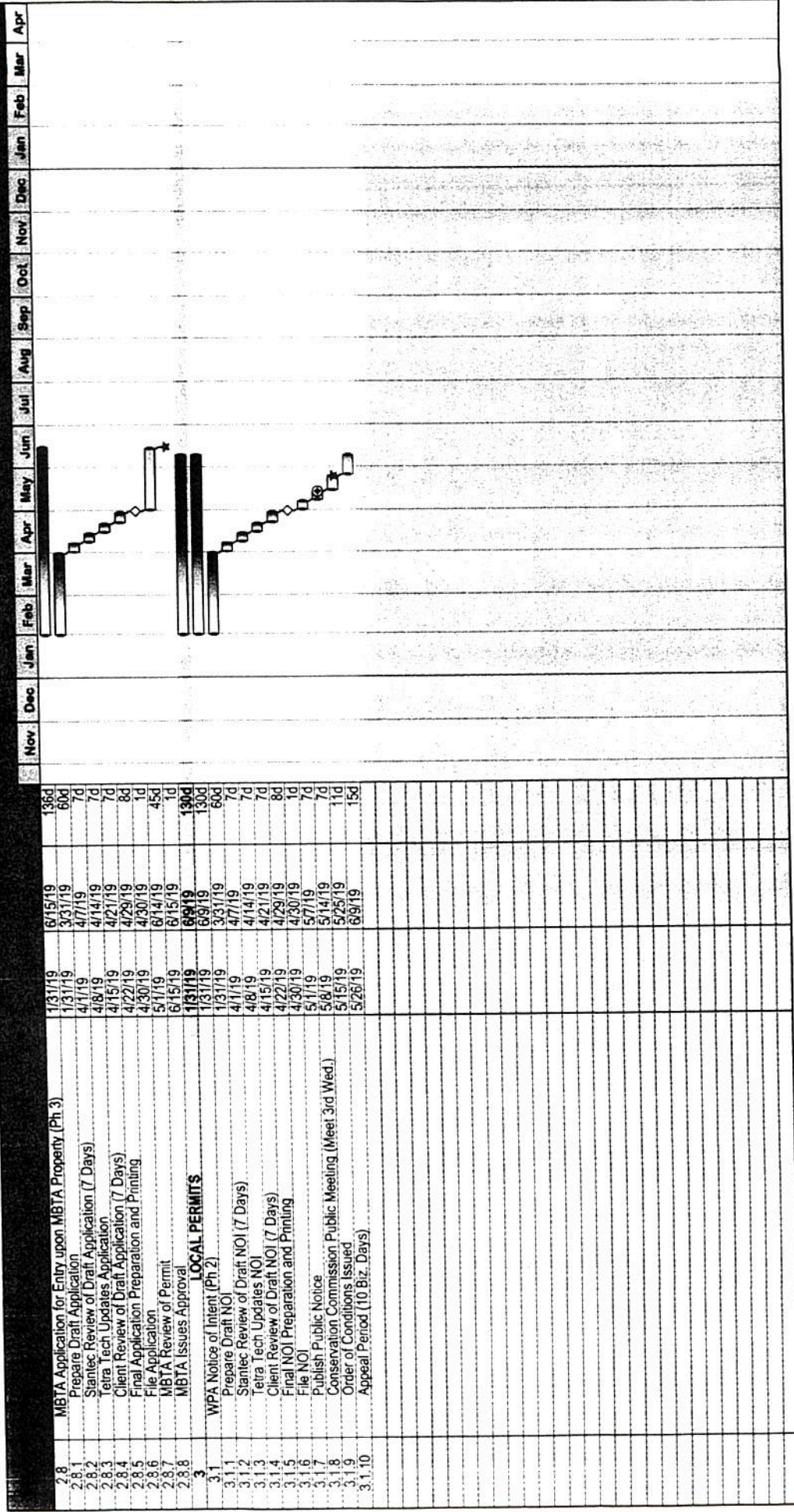
Project Action
 Regulator Action
 Milestone
 File Application
 Public Notice
 Determination/Decision
 Meeting

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12/20/18



◆ Project Action
 □ Regulator Action
 ◆ Milestone
 ◇ File Application
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 ★ Determination/Decision
 ▲ Meeting



Revised: Dec-13-2018

Construction

MassDEP Consent Order PS/Outfall Construction ->